MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
WATER QUALITY ADVISORY COMMITTEE MEETING

Monday September 17, 2007
MAG Office Building
Phoenix, Arizona

MEMBERS ATTENDING

Roger Klingler, Scottsdale, Chair
* Marilyn DeRosa, Avondale
Lucky Roberts, Buckeye
Jacqueline Strong, Chandler
Greg Stack, El Mirage
* Lonnie Frost, Gilbert
# Chris Ochs, Glendale
# David Iwanski, Goodyear
# Bill Haney, Mesa
Shawn Kreuzwiesner for Stephen Bontrager, Peoria
Robert Hollander, Phoenix
Rich Williams Sr., Surprise
David McNeil, Tempe
Kevin Chadwick, Maricopa County
John Boyer, Pinnacle West Capital
Jim Kudlinski for Ray Hedrick, Salt River Project
Erin Taylor, U of A Cooperative Extension

*Those members neither present nor represented by proxy.
#Attended by telephone conference call.

OTHERS PRESENT

Tom Timmons, Maricopa County Parks
R.J. Cardin, Maricopa County Parks
Steve Pawlowski, Arizona Department of Environmental Quality
Paul Gilbert, Beus Gilbert
Michael Vaile, Skipper Marine Development
John Tyldesley, CSA Engineering
Peter Chan, CSA Engineering
Julie Hoffman, Maricopa Association of Governments
Patrisia Navarro, Maricopa Association of Governments

1. Call to Order

A meeting of the MAG Water Quality Advisory Committee was conducted on Monday, September 17, 2007. Roger Klingler, City of Scottsdale, Chair, called the meeting to order at approximately 4:00 p.m. Jacqueline Strong, City of Chandler; Greg Stack, City of El Mirage; Chris Ochs, City of Glendale; David Iwanski, City of Goodyear; Bill Haney, City of Mesa; and David McNeil, City of Tempe, attended the meeting via telephone conference call.

2. Agenda Announcements

Chair Klingler provided an opportunity for member agencies to report on activities of interest in their agencies.

3. Call to the Audience

Chair Klingler provided an opportunity for members of the public to address the Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG or items on the agenda for discussion but not for action. No members of the public indicated that they wished to address the Committee.

4. Approval of the August 7, 2007 Meeting Minutes

The Committee reviewed the minutes from the August 7, 2007 meeting. John Boyer, Pinnacle West Capital, moved and Lucky Roberts, Town of Buckeye, seconded, and the motion to approve the August 7, 2007 meeting minutes carried unanimously.

5. Draft Small Plant Review and Approval for the Proposed City of Peoria Scorpion Bay Wastewater Treatment Plant

Paul Gilbert, Beus Gilbert, gave a briefing on the Draft Small Plant Review and Approval for the Proposed City of Peoria Scorpion Bay Wastewater Treatment Plant (WWTP). He mentioned that this is a small plant application and discussed the propensity to keep small plants few and far between because of the idea to do regional facilities. Mr. Gilbert stated that this is a small application because it is a marina surrounded by Lake Pleasant Regional Park. He added that representatives from Maricopa County were in attendance to support this application and answer any questions from the Committee. The Scorpion Bay marina is also surrounded by Bureau of Land Management (BLM) land. He mentioned that there is no other opportunity for development in the vicinity of the operation and limited ability to hook on to some regional plant in the future. Mr. Gilbert stated that all the requirements for a 208 application have been met and the City of Peoria is the sponsor. He added that the application is supported by the Maricopa County Environmental Services Department (MCESD) as indicated in the April 19, 2007 letter where it was indicated that the plant did not conflict with any Maricopa County plans.

Mike Vaile, Skipper Marine Development (SMD), stated that they were hired as the construction managers for the project. He added that SMD was hired to manage the facility when it opens for the public and have a three year contract. The SMD manages twenty-two facilities in the country and several of them have been granted clean marina status from the various state agencies. Mr. Vaile stated that they would like to work closely with the Arizona Game & Fish Department in developing a Clean Marina Program and be the first marina in the state to achieve that certification. He provided handouts showing the certificates from Florida and Ohio.

Mr. Gilbert stated that the Scorpion Bay WWTP will be located in the Lake Pleasant Regional Park and within the City of Peoria planning area. He added that the City of Peoria is sponsoring and supporting the application for the Scorpion Bay WWTP. Mr. Gilbert presented a map of the general location of the Scorpion Bay Marina and stated that there will be 312 slips that will be serviced in phase one. He presented the vicinity map that showed the project site that is surrounded by BLM land or park land. He added that there will be no residential development in the immediate area. Mr. Gilbert stated that the projection for the Scorpion Bay Marina WWTP total flow for phase 1 will be 19,334 gallons per day (gpd), and 34,950 gpd for phase 2.

John Tyldesley, CSA Engineering, stated that CSA Engineering is doing the design for the plant. He added that the initial phase 1 plant will be designed around 19,500 gallons per day. He mentioned that earlier flows will require vault and haul. Mr. Tyldesley stated that is a simple package plant located away from the lake shore. He added that the standard design features for the small package plant is a simple design that includes extended aeration, clarification, disinfection, filtration and a drip irrigation system to reuse the water that is produced. Mr. Tyldesley presented a diagram of the schematic and discussed the water quality from the facility which would be Class A+ effluent for unlimited reuse. He mentioned the permits that will be obtained for the facility and presented the schedule. It is anticipated that the facility will be constructed from August 2008 to March 2009 with start-up in April 2009. Mr. Tyldesley stated that the reuse system has been designed to have 100 percent consumption of all of the effluent produced by the plant. This will negate the need for any recharge or Arizona Pollutant Discharge Elimination System permit discharge.

Chair Klingler asked if City of Peoria and/or Maricopa County would like to comment on the project. Kevin Chadwick, Maricopa County, stated that the project did meet all the requirements.

Robert Hollander, City of Phoenix, inquired about chemicals from the boats going into the wastewater treatment plant. Mr. Vaile replied that there will be a pump out system from those boats to go to the plant. He mentioned that SMD will only sell green chemicals that are biodegradable at the marina. He added that SMD could not dictate what chemicals people bring from offsite, but will have signs encouraging the green chemicals.

Chair Klingler inquired about the pump station in Figure 4. Mr. Vaile replied that the boats will get pumped at the fuel dock where there will be vacuum hoses, and the flow will reach the wastewater treatment plant via force main. Chair Klingler asked if the floating dock was at the right elevation. Mr. Vaile responded that the marina location is designed for 60 foot of water fluctuation. He added that the lake can go down more than 60 feet. He stated that if the lake goes down more than 60 feet SMD would have to disconnect the marina. Options at that point would be having port-a-potties on the dock or closing the marina.

John Boyer, Pinnacle West Capital, inquired about the landscaping at the Scorpion Bay Marina to use all of the effluent from the wastewater treatment plant. Mr. Vaile replied that the marina has a landscape architect to design the drip irrigation system. Most of the water will be used by cottonwood trees in the parking lot which is a thirsty plant that will take all the water you can give them. He added that the Scorpion Bay Marina will have a drip irrigation system around the whole site for the rest of the cactuses, shrubs and natural landscaping.

Mr. Hollander inquired about external filters. Mr. Tyldesley replied that the initial design of the package plant does not come with filtration; however, it is being added. Chair Klingler inquired if Scorpion Bay was named by the County and not the developer. Mr. Gilbert responded that the statement was correct.

David Iwanski, City of Goodyear, inquired if any letters were received in support or in opposition of the project, specifically from Maricopa Water District. Julie Hoffman, Maricopa Association of Governments, responded that MAG has not received any additional letters on the project. Mr.Gilbert stated that the only opposition that they are aware of is from the operator of the other marina.

Rich Williams, City of Surprise, inquired about protection, safeguard, containment, of unintentional discharges. Mr. Tyldesley replied that there should not be any risks of unintentional discharges assuming that all appropriate safeguards and redundant systems are placed in the initial design. Mr. Tyldesley demonstrated the high water line which is located away from the lake. Mr. Williams asked if an unintentional spill or catastrophic event with the treatment system remain on the treatment plant site or would it free flow down the shore line into the lake. Mr. Vaile referred to a map showing where the treatment plant will be located and stated that if there is a spill, it will be contained within the retention basin.

Lucky Roberts, Town of Buckeye, inquired if the sewer line coming from the marina going to be floating on water or will it be on land. Mr. Vaile replied that the sewer line will be in water and on land. It will be floating to the floating dock and there will be an incline elevator that will carry people up and down the hill and a separate dock where at high water it will float and at low water will rest on the bottom. He added that there will be flex hoses to accommodate flex in the dock. Ms. Roberts asked if the line will be floating on top of the water. Mr. Vaile responded yes within the dock. He added that it will be a dual polyethylene pipe. Ms. Roberts asked if there will be safeguards in place to avoid anything from crashing into that pipe. Mr. Vaile responded that the pipe is in the dock area which is eight feet wide and four feet high, structural steel thrust design. He added that there will be very minimal boats in that area, the furthest a boat will go in that area is the fuel dock and the force main is behind it. Mr. Vaile stated that it will be protected from high seas.

Ms. Roberts inquired which wastewater treatment facility will be utilized to dispose of the sludge. Mr. Tyldesley replied that the sludge would be hauled to the Resource Recovery Techniques of Arizona Wastewater Treatment Facility which was listed in the document and the information was provided to MAG. Julie Hoffman, Maricopa Association of Governments, stated that the facility is located in the southwest Phoenix. Peter Chan, CSA Engineering, stated that the facility is located at approximately 83rd Avenue and Lower Buckeye. He added that this facility is an industrial treatment plant and most of the septic that is collected from various places in Maricopa County go to that plant.

Chair Klingler inquired if the floating design has been used in other areas. Mr. Vaile replied that there is a handbook for marinas, which he considers to be conservative, that has a standard gallons per day per slip. He added that in his experience that standard will be for holidays and weekends and the other four days of the week there would hardly be any flows at the facility. The system has been designed for the maximum flow, seven days a week, 365 days a year when in actuality it will be far less than that standard. Mr. Vaile mentioned that every marina is different with a different season and a different location in the country and that makes it hard to pull information from other areas. He added that they have the records from the other marina on the lake that show the historical flows Mr. Vaile indicated that the standard is greater than the other marinas busiest day. Chair Klingler inquired if the floating dock design with a force main was in use in another area by SMD or any other company. Mr. Vaile responded that the pump-out system is a standard off-the-shelf item. He added that grants may be given by the Clean Vessel Act for the system.

Jim Kudlinski, Salt River Project, asked if there has been an opportunity to share the plans with a representative from Central Arizona Project (CAP) and if there was any feedback. Mr. Vaile replied

that they have not discussed the plans with CAP, but would be glad to discuss it. He added that SMD has discussed lake levels and getting a permit for dust control with CAP.

Erin Taylor, U of A Cooperative Extension, inquired about the estimated life span of the pipe and how repairs for cracks will be monitored. Mr. Vaile responded that it will be a double wall polyethylene pipe with subs along the line so if there is a leak it will collect it in that area with sensors. Ms. Taylor asked if there was going to be alarms to alert if there is a seep. Mr. Vaile replied that there will be monitoring devices to let them know.

Mr. Hollander moved to recommend approval of the proposed City of Peoria Scorpion Bay Wastewater Treatment Plant as part of the MAG 208 Plan. Mr. Williams seconded and it was unanimously passed through a roll call vote by the Committee.

6. Triennial Review of Surface Water Quality Standards

Steve Pawlowski, Arizona Department of Environmental Quality (ADEQ), gave a presentation on the Triennial Review of Surface Water Quality Standards. Mr. Pawlowski stated that ADEQ is responsible under the Clean Water Act for modifying and adopting new standards every three years. He added that ADEQ last revised the Surface Water Quality Standards in 2003. There has been an informal process of holding various forums and discussing ideas over the last two years. Mr. Pawlowski indicated that ADEQ is ready to initiate the formal rulemaking process to adopt and modify the water quality standards. He stated that it would probably be another year before the standards are adopted by rule. Mr. Pawlowski stated that ADEQ intends to use the web to share information on the water quality standards. He added that ADEQ has posted the draft of the rules as well as various implementation procedures and documents that are used to support the standard and provide additional information.

Mr. Pawlowski stated that clean water is one of Arizona's most precious resources. He added that clean water is essential to people for drinking water purposes, fishing, water-based recreation, aquatic life, irrigation purposes and livestock watering. He indicated that ADEQ adopts standards to maintain and protect water quality to: protect public health so we can safely drink the water, eat the fish we catch, and recreate in and on the water; protect the aquatic life that live in our surface waters; maintain water quality so we can use it for agricultural irrigation and livestock watering. He mentioned that the water quality standards program has been described as a cornerstone of ADEQ's water quality management programs. Mr. Pawlowski discussed water quality assessment. He stated that every two years ADEQ does a comprehensive water quality assessment for surface waters in Arizona looking at the status for water quality in rivers, lakes and streams.

Mr. Pawlowski discussed the Total Maximum Dail Load (TMDL) Program. The assessment process uses the standards as a benchmark to determine whether standards are being attained. If the standards are not attained, ADEQ identifies water bodies that are not meeting the water quality standards, which forms the basis of the 303(d) list of impaired waters. He stated that if a water body is listed on the 303(d) list, then ADEQ has responsibility to develop TMDLs to address the impairments and try to restore water quality to a level that meets the water quality standards. Mr. Pawlowski stated that the standards are used to control the point source discharge of pollutants to

Waters of the United States. He added that when these standards are adopted it provides the basis for establishing permit controls for the point source discharge of pollutants through the AZPDES permitting program. Mr. Pawlowski mentioned that water quality standards can affect levels of wastewater treatment required. The standard adopted for the receiving water has to be attained. He added that people pay attention to the water quality standards because it can have fairly significant consequences for point source discharges that are discharging to the rivers, streams and lakes.

Mr. Pawlowski mentioned that water quality standards consist of two elements: designated uses and water quality criteria, both numeric and narrative criteria, that are adopted to protect water quality for the designated uses. He presented the current designated uses that are in the water quality standards regulations. Mr. Pawlowski mentioned that ADEQ is adopting the water quality criteria for the designated uses. He stated that in this Triennial Review, ADEQ will be proposing revisions to the water quality standards for domestic water sources, recreational, and fish consumption designated uses. Mr. Pawlowski stated that ADEQ uses Environmental Protection Agency (EPA) methods to derive the water quality criteria with some modifications to address Arizona specific issues. He mentioned that in this Triennial Review for domestic water source, ADEQ uses the Safe Drinking Water maximum contaminant levels to protect surface waters that are sources of drinking water. Mr. Pawlowski stated that the most controversial standard that ADEQ will be adopting for the domestic water sources is for Arsenic. The MCL of the drinking water standard that has been revised to be more stringent. He added that it is currently at 50 micrograms per liter and ADEQ is proposing to adopt a new MCL of 10 micrograms per liter. This would apply to all water bodies that have the domestic water source designated use.

Mr. Pawlowski stated that another new development in the water quality standards that ADEQ is proposing is to adopt water quality criteria that expresses tissue concentration that would be for the fish consumption designated use. He added that it will be for methyl mercury which is a bioaccumulative pollutant. Mr. Pawlowski illustrated how methyl mercury can bioaccumulate in the tissues of organisms and eventually when we consume those organisms, the mercury will be in our bodies. He stated that the tissue criterion will describe the maximum allowable concentration of methyl mercury in fish tissue to protect people who eat the fresh water fish. He added that this is based on EPA recommendations. He stated that this will be the basis for ADEQ, in cooperation with Arizona Game and Fish Department, issuing fish consumption advisories from methyl mercury when tissue concentrations are found above the level.

Mr. Pawlowski stated that ADEQ uses mathematical equations to derive criteria to protect people who are swimming or recreating in water. He added that it uses water ingestion function because of the lack of data on dermal exposure. Mr. Pawlowski mentioned the current water ingestion consumption. Mr. Pawlowski stated that ADEQ is proposing to change the current bacteria standards. He stated that microbiological water quality is the most important factor in determining whether a lake or stream is suitable for recreational use. He added that there are hundreds of potential pathogenic bacteria, viruses and protozoa in surface water. The ADEQ adopts standards for an indicator organism which is an indicator of microbiological water quality. He stated that ADEQ adopted water quality standards for an indicator organism, E.Coli, to protect human health, based on EPA recommendations for fresh water. Mr. Pawlowski discussed the revised E. Coli standards. He stated that the current standards do not have an averaging period for the Geometric

Mean; therefore, ADEQ will be clarifying that by stating it is a 4 sample minimum taken within 30 days.

Mr. Pawlowski stated that ADEQ adopts standards to protect aquatic life and wild life. The ADEQ has four subcategories of aquatic life use: cold water, warm water, ephemeral streams and effluent dependant water bodies. He mentioned that ADEQ uses two different types of aquatic life criteria. One is Acute criteria which protects against adverse effects from short-term exposures to pollutants. The second is Chronic criteria which protects against adverse effects from long-term exposures to pollutants. Mr. Pawlowski discussed that proposing revisions to the aquatic life criteria. He added that ADEQ looks at the toxicity data on aquatic life and try to modify and update the criteria every three to four years so it is based on the most recent toxicity data. Mr. Pawlowski mentioned that ADEQ has a number of parameter pollutants. He stated that ADEQ is adopting new criteria for some pollutants. He added that ADEQ is proposing new aquatic life criteria for some new pollutants, mostly pesticides and herbicides. He indicated that most of the new proposals are based on EPA recommendations.

Mr. Pawlowski stated that the most important revision in this Triennial Review deals with ammonia. He added that ADEQ is proposing numeric ammonia criteria that would apply to effluent dependant waters. Currently there is no numeric criteria. Mr. Pawlowski mentioned that ADEQ will be proposing the same criteria that EPA recommends to protect aquatic life in warm water streams and lakes. He stated that this criteria are expressed by pH and temperature-dependant for what levels of total ammonia will need to be met in the receiving water to protect aquatic life. Ammonia is a toxic pollutant. Mr. Pawlowski stated that effluent dependant waters are a special category of water bodies for which Arizona has adopted standards, which are defined as water bodies that consists of point source discharges to wastewater. They are ephemeral waters in the absence of the discharge of effluent to them. He stated that ADEQ is proposing to identify and list new Effluent Dependant Water (EDW) water bodies in the rules. He mentioned that ADEQ will be proposing guidelines for how standards apply to the discharges. He added that ADEQ will be proposing what type of guidelines should be in place for when acute and chronic standards are applied to the discharges that create effluent dependant water bodies.

Mr. Pawlowski stated that there is an antidegradation rule that has been in place since 1985, but there has not been the implementation procedures for interpreting that policy. He added that ADEQ is proposing antidegradation implementation guidelines and procedures in the rule. Mr Pawlowski stated that it is supported by an extensive implementation procedures guidance document. It will be trying to talk about how antidegredation is implemented in Arizona. He mentioned that this will primarily affect the AZPDES permitted discharges and the 404 permitting permit.

Mr. Pawlowski stated that ADEQ will be proposing biological criteria. He added that this is a new standard for wadeable, perennial streams with either the warm or cold water designated use. He stated that it would not apply to effluent dependant water bodies. He mentioned that it is expressed as a narrative standard and it gets at the biological condition of the water body by looking at the aquatic insects that live in that water body. Mr. Pawlowski stated that ADEQ has been doing research for about 15 years studying warm and cold water streams around the state and looking at the best available minimally impacted streams to see what the healthy streams look like and what

the biological communities like. He added that ADEQ has looked at the maximum vertebrae community, the bugs, and ADEQ has done statistical analyses to the point that there is the ability to create an index of biological integrity, where ADEQ can make comparisons to decide whether the streams are biologically healthy. He stated that biological integrity will be a new initiative to Arizona.

Mr. Pawlowski stated that ADEQ will be developing a narrative nutrient standard which is intended to protect water bodies from excessive usification. The ADEQ will be going forward with new implementation procedures for lakes and reservoirs. He stated that ADEQ has developed a lake classification system and added that ADEQ will be proposing a translator that will be expressed as chlorophyll-a in lakes to look at how to determine whether you have excessive algae growth. The ADEQ will be coming forward with a complete matrix of various numeric thresholds for interpreting the narrative nutrient standards for lakes and reservoirs. He stated that ADEQ will be using these values to determine compliance with the narrative standards. Mr. Pawlowski stated that ADEQ is trying to address controlling excessive sediment in the streams. He mentioned that ADEQ is proposing to revise the current standard for suspended sediment to protect aquatic life in cold water. He stated that ADEQ will be developing implementation procedures document for the narrative bottom deposits standard which is intended to protect the streams against excessive sedimentation. He added that ADEQ will be looking at the percentage of fine sediment in riffle/run habitats in the streams. He stated that if fines sediments exceed a certain percentage ADEQ will consider that to be a violations of the standard.

Mr. Pawlowski stated that ADEQ has another subcategory of water bodies in Arizona, it is currently called Unique Waters, and it will be changing to Outstanding Arizona Water. He stated that there are about 20 unique water bodies. He added that there are two nominations for Outstanding Waters classification: Fossil Creek, tributary to Verde River, and Davidson Canyon in Pima County. The ADEQ is proposing to recognize Fossil Creek and Davidson Canyon as Outstanding Arizona Waters. He demonstrated pictures of the Fossil Creek and Davidson Canyon. He stated that ADEQ is talking about changing Appendix A, which houses all of the numeric water quality standards. He stated that ADEQ will be combining tables 1 and 2 into a single table where it can easily reference all of the numeric water quality standards. Mr. Pawlowski stated that ADEQ will also be changing Appendix B. He added that Appendix B is part of the standards that lists water bodies around the state with designated uses. The ADEQ will be reorganizing the water bodies and the specific sediment description of the various water bodies to try to locate them or geographically reference them. He mention that ADEQ will intend to list the effluent dependant water bodies with the designated uses listed.

Mr. Pawlowski stated that ADEQ is proposing a new narrative water quality standard for adoption which is geared to prohibit wildcat dumping. He added that people are dumping appliances and old tires into the water sources. The ADEQ will propose this standard to make it a water standard violation. He stated that coming soon will be a notice of proposed rulemaking. The final draft was released in June, which has all the details of the proposed standards. He added that there will be some revisions when the notice of proposed rulemaking is published. He stated that ADEQ will hold public meetings in which people will have the opportunity to comment on the proposed rules during the formal rulemaking process. He mentioned that the goal is to initiate the formal rulemaking

process by the end of September. Mr. Pawlowski showed the website where various documents are available. He encouraged active participation of the public.

Chair Klingler inquired about drinking water sources. Mr. Pawlowski stated that the Verde River would be considered a surface water that has the domestic water source designated use. Mr. Hollander stated that the standard is being set for those bodies that have drinking water plants along them, for example the East Salt River Project Canal, the City of Phoenix and City of Glendale have plants along those so if they have any discharges from those plants they would have to get a permit. Currently, Phoenix does not discharge, but has the permit in the event that there is a discharge.

Chair Klingler asked about an exceedance of E. Coli, and the four samples in 30 days. Mr. Pawlowski replied that if there were four samples withing 30 days and ADEQ found that there was a violation of bacteria standards that applied, ADEQ would provide notice of that exceedance to the County Health Department to inform them that there has been an exceedance. He stated that if there is a certain number of exceedances, it may be identified as impaired for microbiological water quality. The ADEQ would then get a TMDL for bacteria to try to identify where the sources bacterial contamination is coming from and come up with an implementation plan to address the causes of that contamination. He mentioned that ADEQ would do additional monitoring on that through the TMDL process. Chair Klingler inquired about what would prevent excessive sediment. Mr. Pawlowski stated that in most cases where there is sediment problems, it is tied to nonpoint source discharges.

7. Call for Future Agenda Items

Chair Klingler asked for any suggestions for future agenda items. With no further comments, Chair Klingler thanked the Committee for participating and called for adjournment of the meeting.